

PRASHANTH K J

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OBJECTIVE

Seeking a summer internship position in interdisciplinary aspects of engineering- MEMS and Nanotechnology.

AREA OF RESEARCH INTEREST

Sensors and Actuators, Smart Materials and Systems, Lab on Chip, BioMEMS, Biomedical applications of MEMS, Microfluidics, Micro-mirrors and Micro-pumps.

EDUCATION

University of Michigan, Ann Arbor

MSE in Mechanical Engineering (Specialization-MEMS and Nanotechnology)

Dec 2013

GPA:3.85/4.0

Indian Institute of Science, Bangalore

Certification course on 'Physics of Microfabrication'

Jan 2012-May 2012

Class Topper, Grade 'A'

Bangalore Institute of Technology, Bangalore (VTU)

BE in Mechanical Engineering

Jul 2011

AGG:77.5%

(i.e. 3.97 on a 4 point scale international GPA as per www.wes.org)

WORK EXPERIENCE

Research intern, University of Michigan, Ann Arbor

Sep 2012 to Present

- Developing novel LSPR biosensors by employing non-conventional lithography and nanopatterning techniques.
- Fabricating master molds for making PDMS based microfluidic devices for immunophenotyping and LSPR biosensors at the Lurie Nanofabrication Facility.
- Development and Fabrication of assembled devices for immunophenotyping and LSPR Biosensors.

Project Graduate Trainee, National Aerospace Laboratories, Bangalore

Aug 2011 to Aug 2012

- Developed and characterized piezoelectric materials such as PVDF and PVDF-PZT composite into thin film transducers.
- Tested these transducers as strain gauges, vibration measuring devices, actuators for micro-aerial vehicle applications, sensors for surface pressure mapping applications.
- Developed and characterized PVDF nanocomposite films like PVDF-PANI films for supercapacitor applications.
- This research was funded by Research Grants from National Program on Micro and Smart Systems (NPMAS), Bangalore.
- Facilitated the initiation of new directions for research on using PVDF for surface pressure mapping of aerial vehicles under the National Programme on Micro Air Vehicles (NPMICAV).

Project Trainee, Indian Institute of Science (IISc), Bangalore

Feb 2009 to Apr 2012

- Designed a decortication machine which will plough and remove the hard cortex without making an indentation on the soft berry.
- Overcame design challenges to make machine independent of the orientation and achieve controlled dynamics of the variable sizes of Arecanut.
- Performed process planning for preliminary prototyping.
- The project is being carried out under the Aegis of Karnataka State Council for Science and Technology (KSCST), Indian Institute of Science (IISc) based on the request for the same sent by the President of India.

Vehicle Dynamics and Virtual Product Design Head, Team Stratos G

Mar 2010 to Jan 2012

- Worked in the areas of design, design conceptualization, virtual product development and Dynamic simulation of the car.
- We took part in the FSAE Australasia during the month of December 2011.

Design Engineer and Marketing Executive, BIT BOSCH Team Stratos

Feb 2009 to Feb 2010

- Played an important *role* in design, design conceptualization and virtual product development of the entire car and mainly worked on roll cage and suspension sub-system.
- Approached the sponsors, and made presentations for the team as the Marketing Executive of the team.
- Achieved 2nd place in the ATV UNIV Challenge 2010 race and was showcased at the Bangalore International auto expo 2010.

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- We were adjudged to have the best design report and came 37 out of 82 teams at SAE India BAJA 2010.

PROJECT WORK (COURSE)

The Role of Tire Behavior in Design of a four wheeled race car and in tuning the vehicle dynamics of a four wheeled race car **Sep 2010 to May 2011**

- Worked with my team member as part of the undergraduate final year project work, to explain the need of studying the tire data, tire characteristics and how to pitch base the entire design approach in development of a race car, to bring in a sense of optimality in design.
- The understanding of tire behavior was suitably exploited in the design of the formula cars at BIT.
- The project work was very well received and earned us the highest grades in the final year project work.

Lightweight Limited slip Differential and Rear Driveline Packaging **Sep 2010 to May 2011**

- Designed and fabricated a limited slip differential and rear driveline packaging for a formula car.
- The resulting differential was used in the formula car built at BIT.
- This project was funded by the research grant from Institution of Engineers (IEI)

TECHNICAL SKILLS

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- **Lab skills:** Atomic force microscopy, Photolithography, soft lithography, DRIE. RIE. Spin coating, microfluidics testing, FEM analysis, Poling of ferroelectrets, Fabrication of thin and thick films, sensors and actuators testing, Dielectric spectroscopy, Sonification, Plasma systems and Physical Vapor Deposition.
 - **Software:** Solid Edge, ANSYS, Matlab, COMSOL, CATIA, UG NX4.0.

LEADERSHIP

Founder, Secretary and Chief Mentor of SAE India BIT Collegiate club **Sep 2008 to Mar 2012**

- Initiated the country's largest SAE collegiate club, Organized SAE tech-fest apart from various SAE club activities and industrial training at BIT.
- Started BAJA, FSAE, Human Powered Concept Vehicle projects.
- Received certificate of appreciation for the BAJA car project from Dr. Andrew Brown, President of SAE International.
- Chief Event Coordinator for the annual Techno-cultural Fest MANTHAN for SAE and Mechanical Department.
- Guided two teams and trained more than 20 interns as the chief mentor of SAE INDIA BIT Collegiate Club.

SPIC MACAY Chapter at the University of Michigan **Sep 2012 to Present**

- Initiated the University of Michigan SPIC MACAY chapter along with a group of 14 members.
- Public Relations Head for the year 2013-2014.
- Organized a Hindustani Music recital performance by internationally renowned artist Smt. Kalapini Komkali, one of the finest vocalists of the Younger Generation on October 23rd, 2012.

PROFESSIONAL AFFILIATION

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- Society of Automotive Engineers
 - SAE INDIA BIT Collegiate Club
 - American Society of Mechanical Engineers (ASME)
 - National Nanotechnology Infrastructure Network (NNIN)
 - Nanotechnology and Integrated Microsystems Students Association (NIMSA)